

ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1

3

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

1. DATE OF ORDER 12/03/2021	2. CONTRACT NO. (If any) 68HERC19D0011	6. SHIP TO: a. NAME OF CONSIGNEE Office of Research and Development	
3. ORDER NO. 68HERC22F0083	4. REQUISITION/REFERENCE NO. PR-ORD-21-01887		
5. ISSUING OFFICE (Address correspondence to) CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001		b. STREET ADDRESS US Environmental Protection Agency 1200 Pennsylvania Avenue, NW MC: 8101R	
		c. CITY Washington	d. STATE DC
		e. ZIP CODE 20460	
7. TO: JAMES BURKE		f. SHIP VIA	
a. NAME OF CONTRACTOR National Academy of Sciences		8. TYPE OF ORDER	
b. COMPANY NAME		<input type="checkbox"/> a. PURCHASE REFERENCE YOUR: Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if anv. including delivery as indicated.	
c. STREET ADDRESS 500 FIFTH STREET NW		<input checked="" type="checkbox"/> b. DELIVERY Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.	
d. CITY WASHINGTON	e. STATE DC	f. ZIP CODE 200012736	
9. ACCOUNTING AND APPROPRIATION DATA See Schedule		10. REQUISITIONING OFFICE Office of Research and Development	
11. BUSINESS CLASSIFICATION (Check appropriate box(es)) <input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone <input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB		12. F.O.B. POINT	

13. PLACE OF		14. GOVERNMENT B/L NO.	15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) 06/02/2023	16. DISCOUNT TERMS
a. INSPECTION Destination	b. ACCEPTANCE Destination			

17. SCHEDULE (See reverse for Rejections)

ITEM NO. (a)	SUPPLIES OR SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	DUNS Number: 041964057 TOCOR: DANIELLE DIXON Max Expire Date: 06/02/2023 Continued ...					

SEE BILLING INSTRUCTIONS ON REVERSE	18. SHIPPING POINT	19. GROSS SHIPPING WEIGHT	20. INVOICE NO.	\$50,000.00	17(h) TOTAL (Cont. pages)
	21. MAIL INVOICE TO:				
	a. NAME	RTP Finance Center			
	b. STREET ADDRESS (or P.O. Box)	US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts			\$50,000.00
c. CITY Durham	d. STATE NC	e. ZIP CODE 27711			17(i) GRAND TOTAL

22. UNITED STATES OF
AMERICA BY (Signature)

12/03/2021

ELECTRONIC
SIGNATURE

23. NAME (Typed)

William M. Yates

TITLE: CONTRACTING/ORDERING OFFICER

ORDER FOR SUPPLIES OR SERVICES
SCHEDULE - CONTINUATION

PAGE NO
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DATE OF ORDER 12/03/2021	CONTRACT NO. 68HERC19D0011	ORDER NO. 68HERC22F0083
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ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
0001	<p>Admin Office: CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001 Period of Performance: 12/03/2021 to 06/02/2023</p> <p>New Task Order request for IOAA under NAS Contract #68HERC19D0011 Task Order #: TBD Title: NAS Urban Sustainability Workshop CO: Mark Cranley CS: William Yates, Contract Specialist Acquisition Division: CAD Exemption Code (5170 Conference Process): ME262600 TOCOR: Danielle A. Dixon ALTOCOR: Tia Groves CL COR: Jorge Rangel No IT Codes or FITARA necessary Product/Service Code: R499</p> <p>Accounting Info: 21-22-C-26RR000-000FK9-2583-ME262600-2 6A5C-2126RRC020-001 BFY: 21 EFY: 22 Fund: C Budget Org: 26RR000 Program (PRC): 000FK9 Budget (BOC): 2583 Job #: ME262600 Cost: 26A5C DCN - Line ID: 2126RRC020-001 Funding Flag: Complete Funded: \$25,000.00</p>				Ex. 4 CBI	
0002	<p>New Task Order request for IOAA under NAS Contract #68HERC19D0011 Task Order #: TBD Title: NAS Urban Sustainability Workshop CO: Mark Cranley CS: William Yates, Contract Specialist Acquisition Division: CAD Exemption Code (5170 Conference Process): ME262600 TOCOR: Danielle A. Dixon ALTOCOR: Tia Groves CL COR: Jorge Rangel Continued ...</p>				Ex. 4 CBI	

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

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SCHEDULE - CONTINUATION

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ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
0003	<p>No IT Codes or FITARA necessary Product/Service Code: R499</p> <p>Accounting Info: 21-22-C-26RR000-000FK9XR5-2583-26A5C-2 126RRC020-002 BFY: 21 EFY: 22 Fund: C Budget Org: 26RR000 Program (PRC): 000FK9XR5 Budget (BOC): 2583 Job #: ME262600 Cost: 26A5C DCN - Line ID: 2126RRC020-002 Funding Flag: Complete Funded: \$24,771.61</p> <p>2126RRC020: Add additional funds of \$228.39. 68HERC19D0011; NAS Urban Sustainability Workshop. PWS was at 50k. Product/Service Code: R499</p> <p>Accounting Info: 21-22-C-26RR000-000FK6XR1-2583-26A5C-2 126RRC020-003 BFY: 21 EFY: 22 Fund: C Budget Org: 26RR000 Program (PRC): 000FK6XR1 Budget (BOC): 2583 Cost: 26A5C DCN - Line ID: 2126RRC020-003 Funding Flag: Complete Funded: \$228.39</p>					

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PERFORMANCE WORK STATEMENT

National Academy of Sciences (NAS)

Contract #68HERC19D0011

PR-ORD-21-01887

Task Order #68HERC22F0083

I. TITLE: Enhancing Urban Sustainability Infrastructure: A Workshop on Mathematical Approaches for Optimizing Investments

EAS Short Title: NAS Urban Sustainability Workshop

II. Task Order Contracting Officer Representative(s):

Task Order Contracting Officer Representative (TOCOR) Name: Danielle Dixon Office: ORD/IOAA/NPD Phone: 919-541-2808 FAX: 919-541-5485 Email: dixon.danielle@epa.gov	Alternate Task Order Contracting Officer Representative (Alt. TOCOR) Name: Tia Groves Office: ORD/IOAA Phone: 202-564-5709 FAX: 202-564-2494 Email: groves.tia@epa.gov
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III. PERIOD OF PERFORMANCE: Date of task order award through 18 months following award

IV. PURPOSE OF TASK

The purpose of this task order is to plan and organize a workshop to explore state-of-the-art analytical tools and research needs that could advance equitable urban sustainability through improved prioritization of planning and implementation of sustainability, environmental, and public works projects.

This NAS workshop would aim to build upon past work, help strengthen coordination among the interdisciplinary stakeholder communities, and focus research attention on open challenges and opportunities to improve equitable planning and decision making around sustainability, environmental, and public works project funding. This workshop will bring together diverse stakeholders to discuss approaches toward the following topics:

- Optimizing planning and implementation of sustainability, environmental, and public works projects given constrained resources, a changing climate and social factors;
- Evaluating the best-value solutions for sustainability, environmental, and public works projects that incorporate communities' values and priorities;

- Exploring the potential equity and socioeconomic impacts of investment choices including recent trends to make equity central to sustainability plans and projects;
- Using data from sensing, information and communications technologies in conjunction with descriptive, predictive, and prescriptive models to support equity and sustainability in planning and decision making (while also accounting for inherent uncertainties);
- Analyzing how communities engage and interact with new uses of data and technology, including exploring relevant ethical issues around the use of data;
- Ensuring transparency and public participation in use of data that supports equitable and sustainable environmental planning and public works decision making.

In addressing the above topics, the NAS workshop shall:

- Bring together domain experts from urban sustainability, city planning, environmental justice, local public and private infrastructure providers, asset management, and infrastructure investment communities with statisticians, data scientists, mathematicians, economists, computer scientists, and artificial intelligence/machine learning experts, experts in humanities, social sciences, equitable development, and public policy to share ideas, best practices, and opportunities; and
- Identify new research areas that have the potential to advance equitable and sustainable environmental and public works planning.

V. BACKGROUND

The NAS workshop aims to engage stakeholders from government (local, state, and national), transit authorities, local and public infrastructure providers, information communication technology vendors, finance, engineering, management consulting companies, and academic research communities. The EPA's goal is to strengthen interdisciplinary collaboration and identify research gaps in prioritizing planning and infrastructure investments to enhance equitable urban sustainability. This includes helping public and private policy-makers, financiers, and managers adopt digital innovation and asset management and fast-tracking institutional transformation across the entire public and private domains, and the infrastructure supply chain. The NAS workshop proceedings shall be aimed at these broad communities.

The goals for this NAS workshop are consistent with EPA Sustainable and Healthy Communities (SHC's) Strategic Research Action Plan. The results of the workshop will benefit EPA's next Strategic Research Action Plan, specifically the topic "Integrated Systems Approach to Building Healthy and Resilient Communities" by deepening our understanding of the broad array of agents, conditions, and processes that factor into equitable community sustainability decision making. The NAS workshop shall also provide a means for increasing awareness of EPA sustainability and resilience research and tools, and help EPA learn how our tools may be applied to community planning and public works decisions. Specific examples of benefits related to our tools include National Ecosystem Services Classification System Plus, EnviroAtlas, Community Resilience Builder, Municipal Solid Waste Decision Support Tool. EPA

will gain a greater understanding of the ways in which these tools can have greater relevance to equitable urban sustainability decision making.

VI. SCOPE OF WORK

The National Academies of Sciences, Engineering, and Medicine shall appoint a broadly cross-disciplinary workshop planning committee of about 10-15 experts to carry out the planning and execution of a virtual workshop. The expertise of the NAS workshop planning committee should reflect the expertise of the workshop invitees. The planning committee shall be composed of prominent experts in urban sustainability, city planning, equitable development, economics, mathematics, data science, statistics, computer science, as well as experts in humanities, social sciences, environmental justice, and public policy that offer a different perspective and approach to data and decision making. Also included shall be other stakeholders who make use of research related to equity and sustainable resources. Following its normal practice, the National Academies shall solicit suggestions from a wide variety of sources.

VII. DESCRIPTION OF TASKS

Task 1: Virtual Workshop on Urban Sustainability

NAS shall plan and organize one virtual workshop to explore state-of-the-art analytical tools and research needs that could advance equitable urban sustainability through improved prioritization of planning and implementation of sustainability, environmental, and public works projects. The deliverable shall be a workshop report summarizing the event.

The workshop shall bring together diverse stakeholders to discuss approaches toward the following topics:

- Optimizing planning and implementation of sustainability, environmental, and public works projects given constrained resources, a changing climate and social factors;
- Evaluating the best-value solutions for sustainability, environmental, and public works projects that incorporate communities' values and priorities;
- Using data from sensing, information and communications technologies in conjunction with descriptive, predictive, and prescriptive models to support equity and sustainability in planning and decision making (while also accounting for inherent uncertainties);
- Exploring the potential equity and socioeconomic impacts of investment choices including recent trends to make equity central to sustainability plans and projects;
- Analyzing how communities engage and interact with new uses of data and technology, including exploring relevant ethical issues around the use of data;
- Ensuring transparency and public participation in use of data that supports equitable and sustainable environmental planning and public works decision making.

Subtask 1.1. – Kickoff Meeting

An initial kickoff meeting shall be held between EPA technical staff, TOCOR, and NAS management for the project to discuss the broad outlines of the requested report, and address any questions raised by the NAS that would inform the development of the planning committee.

Subtask 1.2. – Establish a workshop planning committee:

NAS shall appoint a broadly cross-disciplinary workshop planning committee of about 10-15 experts to carry out the planning and execution of a virtual workshop.

The planning committee will bring together experts from urban sustainability, city planning, equitable development, local public and private infrastructure providers, asset management, and infrastructure investment communities with statisticians, data scientists, mathematicians, economists, computer scientists, and artificial intelligence/machine learning experts as well as experts in humanities, social sciences, environmental justice, and public policy to share ideas, best practices, and opportunities.

The NAS workshop planning committee shall hold a series of virtual meetings with EPA technical staff, and TOCOR to draft the workshop agenda and identify speakers. National Academies staff with the assistance of committee members shall confirm speakers and issue additional invitations as needed. Once the workshop agenda is set, the workshop shall be broadly publicized. In addition to invited speakers, many academics and practitioners with experience in sustainability, equity and data science shall be invited to participate in the workshop

Subtask 1.3. – Conduct the virtual workshop:

NAS will host and organize a workshop that shall be webcast and broadly available to the public. Videos shall be recorded and stored on NAS website for additional viewing.

Subtask 1.4 – Develop Workshop Output:

NAS shall prepare a “Draft Workshop Report” reflecting committee findings on the research topics covered at the workshop for EPA review and comment. Simultaneous with delivery to EPA, the report shall be sent out for workshop participant review and comment. The draft report shall be delivered to the TOCOR, Contracting Officer (CO), and Contract Level CO Representative (CL-COR) 60 days following the conclusion of the workshop.

After EPA and workshop participant review of the draft, this document shall go through external review by NAS. Once NAS has addressed peer review comments, the final report shall be submitted to EPA. Once approved by EPA, the final report shall be released to the public for free public download. The final peer-reviewed report shall be delivered to the TOCOR, Contracting Officer (CO), and Contract Level CO Representative (CL-COR) 60 days following receipt of peer review comments.

Task 1. Deliverables

Task	SubTask	Deliverable	Schedule
1	1.1	Kickoff Meeting	Within 30 days of the date of task order award
	1.2	Establish planning committee	Within 3 months of the date of task order award the planning committee shall be in place and begin meeting.
	1.3	Conduct Virtual Workshop:	The Workshop must be held no later than 6 months after establishing the Committee. All workshops shall be completed within 18 months from the date of task order award.
	1.4	Draft Workshop Report Final Peer Reviewed Workshop Report	Due to EPA 60 days following workshop. Due to EPA 60 days following receipt of peer review comments

VIII. Acceptance Criteria

NAS shall deliver videos, and Prepublication and Final Workshop Report (MS Word format) that are technically accurate, complete, timely, grammatically correct, and free of grammatical and spelling errors. These documents and reports shall conform to the specific task, charge, expertise, and deliverables of the Task Order.